

DRIVEN BY EXCELLENCE

A Report on Transportation Performance Measurement at MDOT





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23 USC 409 AND 402(k)(1)

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23 USC 409:

Reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings . . . or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed . . .

23 USC 402(k)(1)

Notwithstanding any other provision of law, if a report, list, schedule, or survey is prepared by or for a State of political subdivision thereof under this subsection [“a comprehensive computerized safety recordkeeping system designed to correlate data regarding traffic accidents, drivers, motor vehicles, and roadways”]. Such report, list, schedule, or survey shall not be admitted as evidence or used in any suit or action for damages arising out of any matter mentioned in such report, list, schedule, or survey.

Information covered by these sections include information compiled or collected for the purpose of identifying, evaluating or planning safety enhancement projects and construction projects and information contained in computerized safety recordkeeping systems which correlate traffic crash data with highway features.

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ACKNOWLEDGEMENTS

Transportation System Condition Team - April 2010

An MDOT staff and management team from all sectors and modes was tasked with: reviewing all the possible measures that could be used to assess the condition of Michigan's transportation system; evaluating the quality and consistency of data available to support the measures; then selecting the measures to be included in the Web site report. These MDOT staff also collect, review, and report, the data that is uploaded to MDOT's Transportation System Performance Report Web site each quarter. These team members continue to review and evaluate the measures being used.

This report draws a significant amount of its content from that effort. The following MDOT staff people have contributed to this effort. Technical support has been provided by staff within the Department of Technology, Management and Budget:

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The information in this report is a partial snap-shot of MDOT's ongoing system condition measurement effort. The performance measures Web site: www.michigan.gov/mdotpr, is updated several times each year. New measures may be added to the Web site over the coming year, so check back frequently for updated content. The Web site includes a "feedback" button to submit a question or comment. Providing MDOT with feedback about this report and the information available on the Web site will help us improve its usefulness in the future, so please feel free to email: MDOT-Measures@michigan.gov.

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OVERVIEW

Grades in school, stats for sports teams, monitoring corporate performance, the stock market, and virtually all aspects of our culture involve feedback mechanisms. Feedback, like a leaky roof that cries “fix me,” compels change and improvement. In a similar manner, performance measurement compares the consequences of actions against specific goals and objectives.

These performance measures can provide Michigan Department of Transportation (MDOT) customers with simple answers to questions such as, “What is the condition of Michigan highways?” or, “Is local bus service available in my county?” Measuring system performance helps people understand how and why particular investment priorities are selected.

Performance measurement uses statistical evidence to determine progress toward defined objectives. These measures provide a source of reliable information to guide decisions, and provide transparency and accountability to our customers.

Reported measures directly impact the public, ranging from highway safety, congestion, and ride quality, to transportation system access and multi-modal availability. This aligns with MDOT’s core mission to provide the best possible service to customers and stakeholders.

All performance measures in this report refer to assets owned, maintained, or financed (in whole or in part) by MDOT. For road and bridge measures, this report focuses on the system under MDOT’s direct responsibility, commonly known as “trunkline,” i.e., Interstate, US, and M routes, plus their associated business loops or spurs. For all other modes and service areas, measures are included when MDOT had direct access to consistent and reliable data.

This report is a subset of the measures MDOT uses to indicate the condition of the transportation system. A companion Web site is available for public viewing with an easy to understand report section detailing the measures, definitions, standards, and status of each item. For those who desire to go more in-depth, the raw data, general trends, and (where available) informed predictions of future status also are readily available. To see the online report, please go to: www.michigan.gov/mdotperformance.

MI Transportation Plan

In establishing the future direction for transportation in Michigan, MDOT undertook a significant effort to gather public and stakeholder input. Nearly 10,000 residents across this great state helped identify the “Preferred Public Vision” of an integrated transportation system:

“Michigan will lead the 21st century transportation revolution as it led innovation in the 20th century. We will move people and goods with a safe, integrated, and efficient transportation system that embraces all modes, is equitable and adequately funded, and socially and environmentally responsible. Michigan’s transportation community will work together to ensure that resources are in place to deliver the system.”

This vision is the basis of Michigan’s transportation blueprint for the future, titled the “MI Transportation Plan: Moving Michigan Forward,” which reinforces the importance of transportation to the economy and everyday quality of life. The document encapsulates the long-range strategy for transportation in Michigan out to the year 2030. Achieving the vision described in the MI Transportation Plan will require significant long-term investment.

Implementing the MI Transportation Plan vision will offer the growing elderly population greater mobility and options for access to health care, community activities, and services. Plan implementation will help Michigan attract educated workers who seek an active lifestyle with vibrant communities. These actions will strengthen Michigan’s position as a global gateway, will attract new industries to Michigan, and ensure the efficiency of key transportation corridors that are vital to the state’s economic health. The result will promote intermodalism, energy efficiency, and a greener Michigan – all keys to improving both “sustainability” and “livability” for Michigan communities.

The performance measures included in this report are tied to the four goal areas of the MI Transportation Plan: **Stewardship; Safety and Security; System Improvement; and Efficient and Effective Operation.**

Evolution of Performance Measures from the MI Transportation Plan

Michigan's future growth clearly depends on the preservation, modernization, and efficient operation of its transportation system. To achieve the ambitious goals set forth in the MI Transportation Plan, it is necessary to benchmark and monitor the performance of the transportation system. As a recent example, MDOT set challenging pavement and bridge condition goals that focused investment system-wide, then consistently measured and monitored progress toward the goals. As a result, significant improvements were targeted and achieved within just a few years. Since then, MDOT has developed performance measures to reflect a broader range of the transportation system, including, in addition to pavement condition and bridge condition: level of service, airport condition, transit fleet condition, passenger rail service levels, and much more. This report, along with the online Web version, exhibits progress being made in this ongoing effort.

The following chart shows the correlation between the high-priority goals in the long-range plan to the corresponding sections of this report, along with the relevant performance measures discussed. These are the primary measures for which MDOT currently maintains data, and which will help achieve the long-term goals of the MI Transportation Plan. MDOT has a long history of managing the performance and measurement of highway conditions. Safety also has long been an important component of MDOT's mission, with robust measurement systems already in place.

As an agency that promotes all forms of mobility for people and goods, a more comprehensive approach is under development. As this process matures, more measures will be added and monitored to evaluate progress toward the goals.

LONG-RANGE PLAN GOALS	RELATED PERFORMANCE MEASURES
Stewardship →	Protecting Investments <ul style="list-style-type: none"> • System Condition • Maintaining Vital Services
Safety and Security →	Protecting Lives <ul style="list-style-type: none"> • Safety • Risk Reduction
System Improvements →	Serving Our Customers <ul style="list-style-type: none"> • Modernization • Expand Access
Efficient and Effective Operations →	Reliable Travel <ul style="list-style-type: none"> • Reducing Delays

MDOT's performance measurement is a work in progress. Please visit our Web site for the latest information: www.michigan.gov/mdotperformance.

PROTECTING INVESTMENTS

Stewardship: *Preserve transportation system investments, protect the environment, and utilize public resources in a responsible manner.*

Anyone who has ever been responsible for the upkeep of an asset (a bicycle, a house, a car) understands the concept of stewardship. During times of dwindling resources, stewardship takes on new importance, helping to focus investments in a way that preserves assets and retains vital services.

In public opinion surveys, the need to maintain the transportation system consistently rises to the top of priorities. Why? Because the condition of the transportation network directly affects the quality of service.

MDOT formalized its approach to improving, measuring, and reporting the condition of its transportation networks with the 1997 adoption of pavement condition goals by the State Transportation Commission. Since then, other goals have been added to round out the suite of goals.

Highway Goals <ul style="list-style-type: none"> • 90 percent in fair or better pavement condition. • 90 percent rate fair or better in ride quality. 	Railroad Crossing Goal <ul style="list-style-type: none"> • Increase the percentage of railroad crossings (trunkline) rated in fair or better condition.
Bridge Goals <ul style="list-style-type: none"> • 95 percent freeway bridges in fair or better condition. • 85 percent non-freeway bridges in fair or better condition. 	Bus Condition Goal <ul style="list-style-type: none"> • All rural or specialized transit agencies' fleets - no more than 20 percent exceed Federal Transit Administration's (FTA) useful life standard.
Carpool Lot Goal <ul style="list-style-type: none"> • 90 percent in fair or better pavement condition. 	Airport Runways Goal <ul style="list-style-type: none"> • Maintain 100 percent of all Tier 1 airport primary runway pavements in good condition.



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System Condition

Highway Pavement Condition

Goal: 90 percent of trunkline pavement rated in fair or better condition.

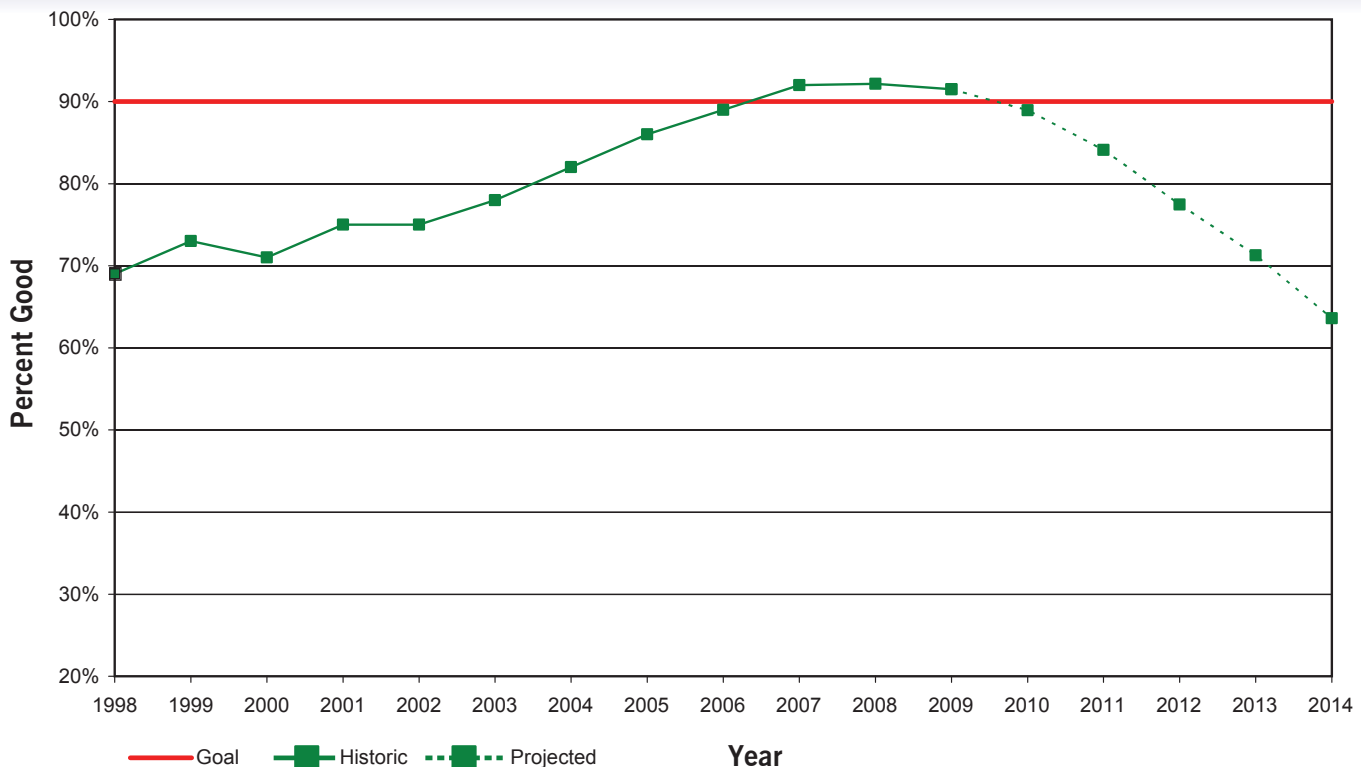
One way MDOT assesses trunkline pavement condition is a measure called Remaining Service Life (RSL). RSL is the estimated remaining years until a pavement's most cost-effective treatment is either reconstruction or major rehabilitation. Pavements with an RSL of two years or less are considered to be in the "poor" pavement category. (Other methods also are used to assess pavement condition and are shown in the online version of this report at www.michigan.gov/mdotperformance.)

The following graph demonstrates progress in improving the state trunkline pavement condition (freeway and non-freeway) since the implementation of MDOT goals for pavement condition over 10 years ago.

As illustrated in the graph below, the combined pavement condition was at approximately 69 percent good in 1998. Utilizing an asset management approach, the combined pavement condition improved to 91 percent good by 2009 – an increase of 27 percent.

The graph includes the forecasted pavement condition based on pavement improvement strategies and projects, using the investment levels contained in the 2010-2014 Five-Year Transportation Program. Statewide combined pavement condition is projected to decline after FY 2009 to approximately 88 percent good in FY 2010 and decline further to only 64 percent good by 2014.

Historic and Projected RSL Pavement Condition: 1998 - 2014



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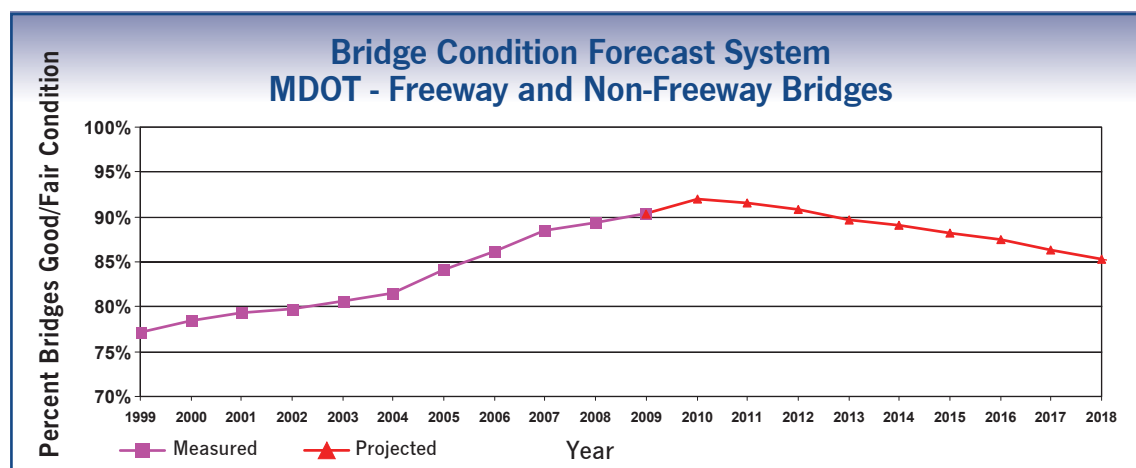
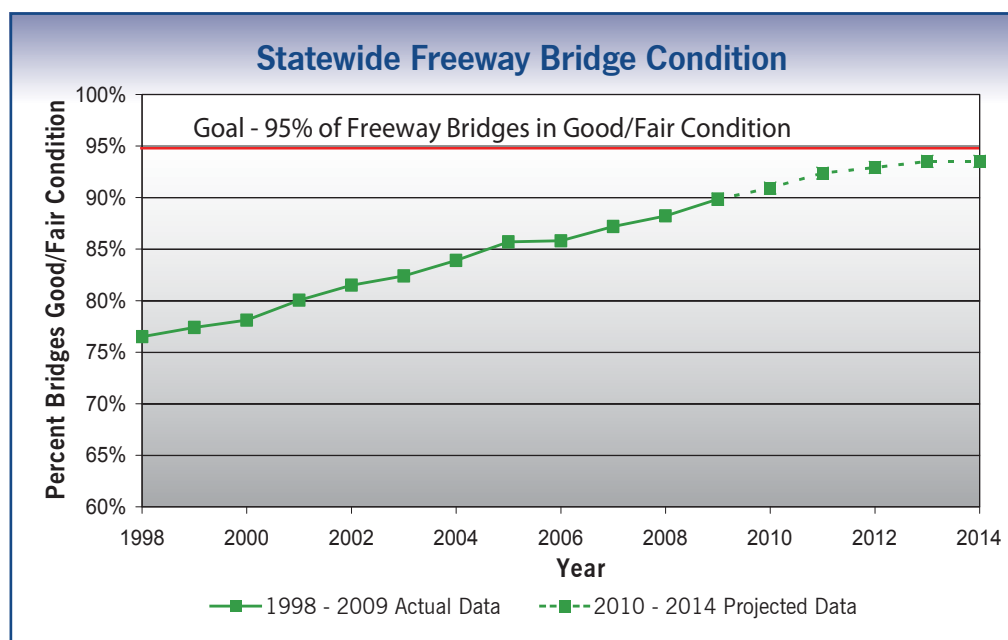
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Bridge Condition

Goal: a) *Improve and sustain 95 percent of freeway bridges in good or fair condition.*
b) *Reduce the number of bridges that are structurally deficient.*

As with pavement ratings, MDOT has a long history of bridge condition data using the National Bridge Inventory. Significant progress has been made in shrinking the number of structurally deficient trunkline bridges. At the end of 2009, less than 10 percent of MDOT bridges were structurally deficient. MDOT has met or exceeded its non-freeway bridge condition goal every year since 2004. The chart below shows MDOT's progress toward meeting the freeway bridge goal of 95 percent in good or fair condition.

When the condition of freeway and non-freeway trunkline bridges is considered jointly, the overall condition approached 90 percent in fair or good condition in the year 2009. Michigan saw significant improvement in bridge condition thanks to funding boosts from the American Recovery and Reinvestment Act and a one-time federal allocation following the 2007 bridge collapse in Minnesota. However, those gains will be eroded beginning in 2011 unless additional funding is made available as seen in the chart below.



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Railroad Crossing Condition

Goal: *Increase the percentage of trunkline railroad crossings rated in fair or better condition.*

Trunkline crossing surface conditions are measured every two years by collecting data on half of the system each year. The percent of grade crossings with a surface condition of good or fair has improved to 82 percent in 2009, compared to only 77 percent in 2001.

Transit Bus Condition

Goal: *Minimize the percentage of the fleet operating past its useful life.*

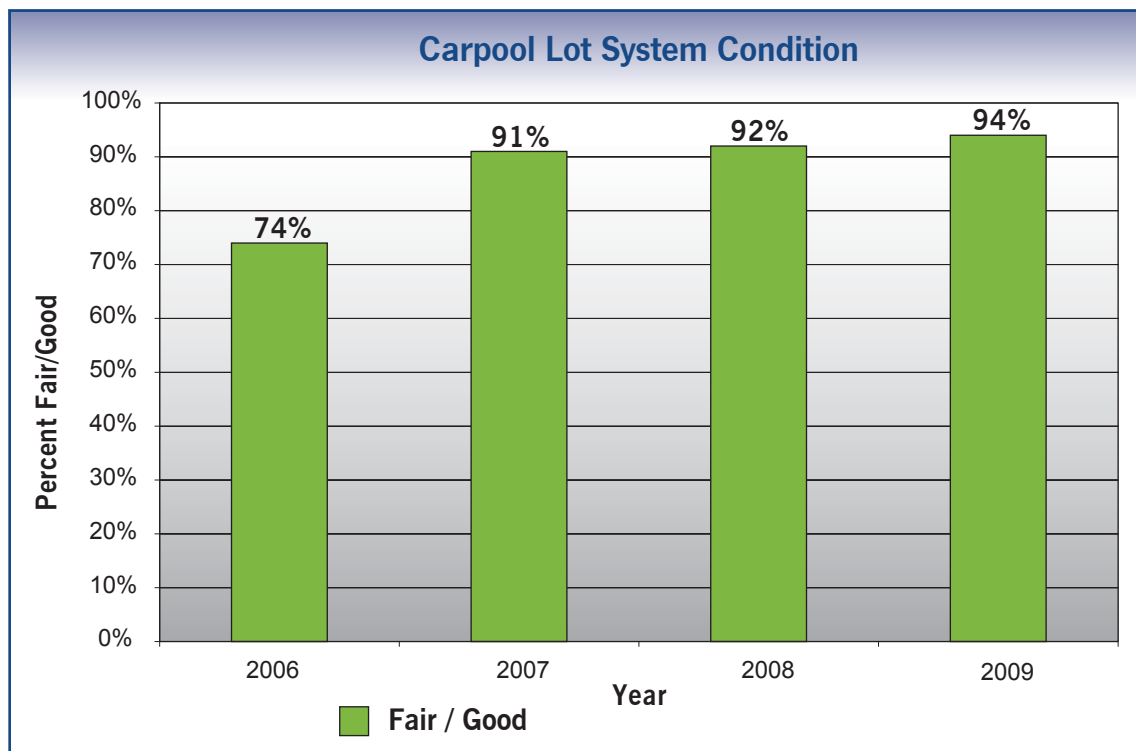
There are many kinds of transit vehicles, each with a useful service life defined by the Federal Transit Administration (FTA). Useful service life is determined by the age of the vehicle and the number of miles operated. MDOT assesses the condition of rural and specialized transit agency fleets on an annual basis. Due to long-term funding constraints, state and federal funds have been shifted to operating assistance to help maintain existing service levels, resulting in less federal and state investment to replace buses.

Therefore, it is considered acceptable, but not desirable, for an agency to have up to 20 percent of their fleet past its FTA-defined useful service life. As of April 2009, specialized transit agencies had no vehicles past their useful life. Among the 60 rural transit agencies, 25 had between 21 percent and 30 percent of their buses operating past their useful life.

Carpool Lot Pavement Condition

Goal: *Maintain 90 percent of carpool lot pavements in good or fair condition.*

Michigan has 236 carpool lots in operation, primarily along freeways or near the intersection of major trunklines. Of those lots, 200 are paved and 36 are unpaved. MDOT assesses the condition of the carpool lot surface condition annually using the Pavement Surface Evaluation and Rating system. This system rates the condition to determine if a lot surface is good, fair, or poor. The percent of the paved carpool lots in fair/good condition has improved by 20 percent since 2006. The percent of all lots in fair/good surface condition now stands at 94 percent of the entire carpool lot system.



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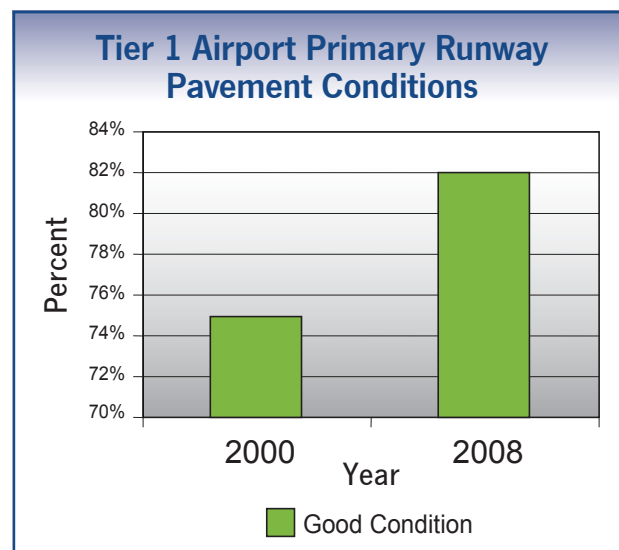
Airport Runway Condition

Goal: *Maintain 100 percent of the primary runway pavements at all Tier 1 airports in good condition.*

Airports statewide are assigned to one of three tiers based on an airport's characteristics.

- Tier 1 airports respond to essential/critical state airport system goals and objectives. These core airports should be developed to their full and appropriate level.
- Tier 2 airports complement the essential/critical state airport system and/or respond to local community needs. Focus at these facilities should be on maintaining infrastructure with less emphasis on facility expansion.
- Tier 3 airports duplicate services provided by other airports and/or respond to specific needs of individuals and/or small businesses. These facilities are secondary to meeting the overall state system goals and receive only minimal safety enhancements, such as runway cones and wind socks.

The condition of airport runway pavement is assessed using an index required by the Federal Aviation Administration. This data is collected for all Tier 1 airport runways by collecting data on one-third



Source: MDOT Bureau of Aeronautics and Freight Services

of the system each year. The data are published in the Michigan Airport System Plan (MASP), which is available online at: www.michigan.gov/aero.

The primary runway at each airport should have pavement rated in good or better condition. Currently, 82 percent of all Tier 1 airport primary runways are rated in good condition, an improvement of 9 percent since the year 2000.



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Maintaining Vital Services

Availability, access, and frequency of service are other measures of stewardship. The following comprise MDOT's suite of service quality measures.

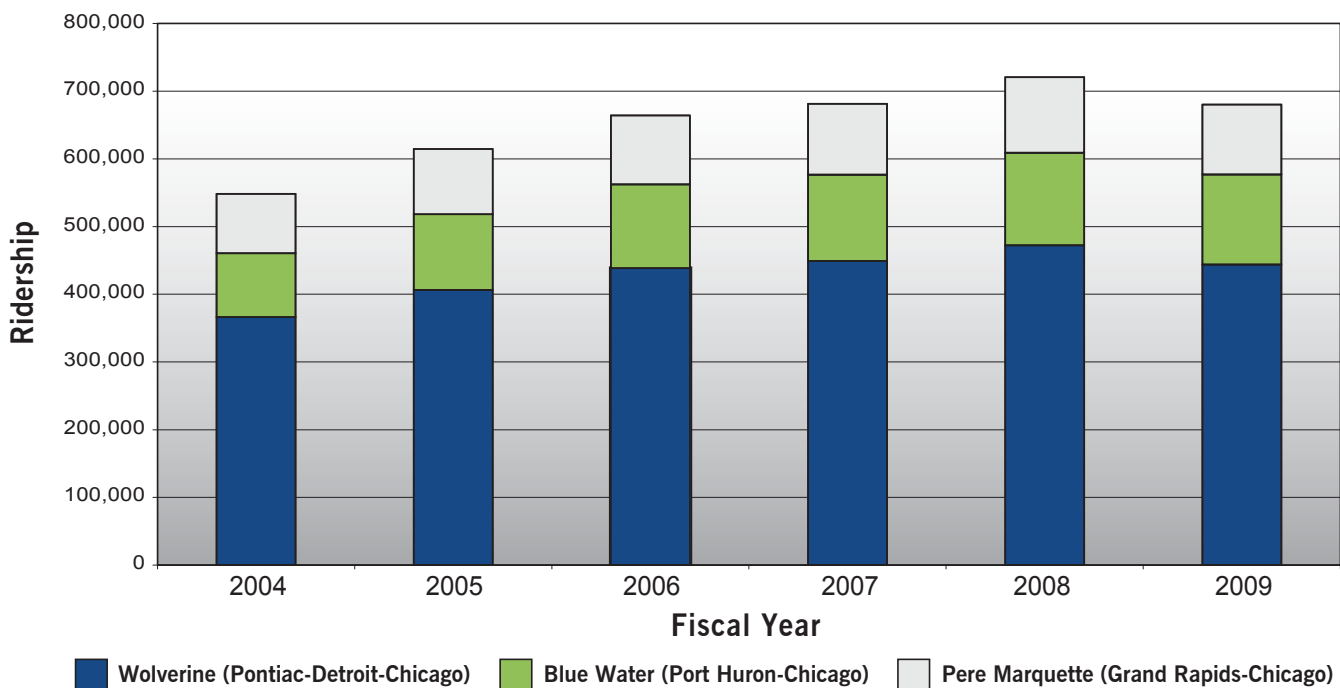
Passenger Rail Service

Goal: *Preserve existing intercity passenger rail transportation service.*

Amtrak operates three passenger rail lines in Michigan: Grand Rapids to Chicago (Pere Marquette), Pontiac/Detroit to Chicago (Wolverine), and Port Huron to Chicago (Blue Water).

The Port Huron-to-Chicago and Grand Rapids-to-Chicago services are dependent on state funding to operate. Both of these routes are important for business and recreational purposes. In the last five years, ridership increased on the Pere Marquette by 18 percent and on the Blue Water by 41 percent. MDOT currently maintains one round-trip daily service on both routes through state contracts with Amtrak. It is MDOT's goal to preserve this level of service, although additional service is desirable.

Passenger Rail Ridership: FY 2004 - 2009



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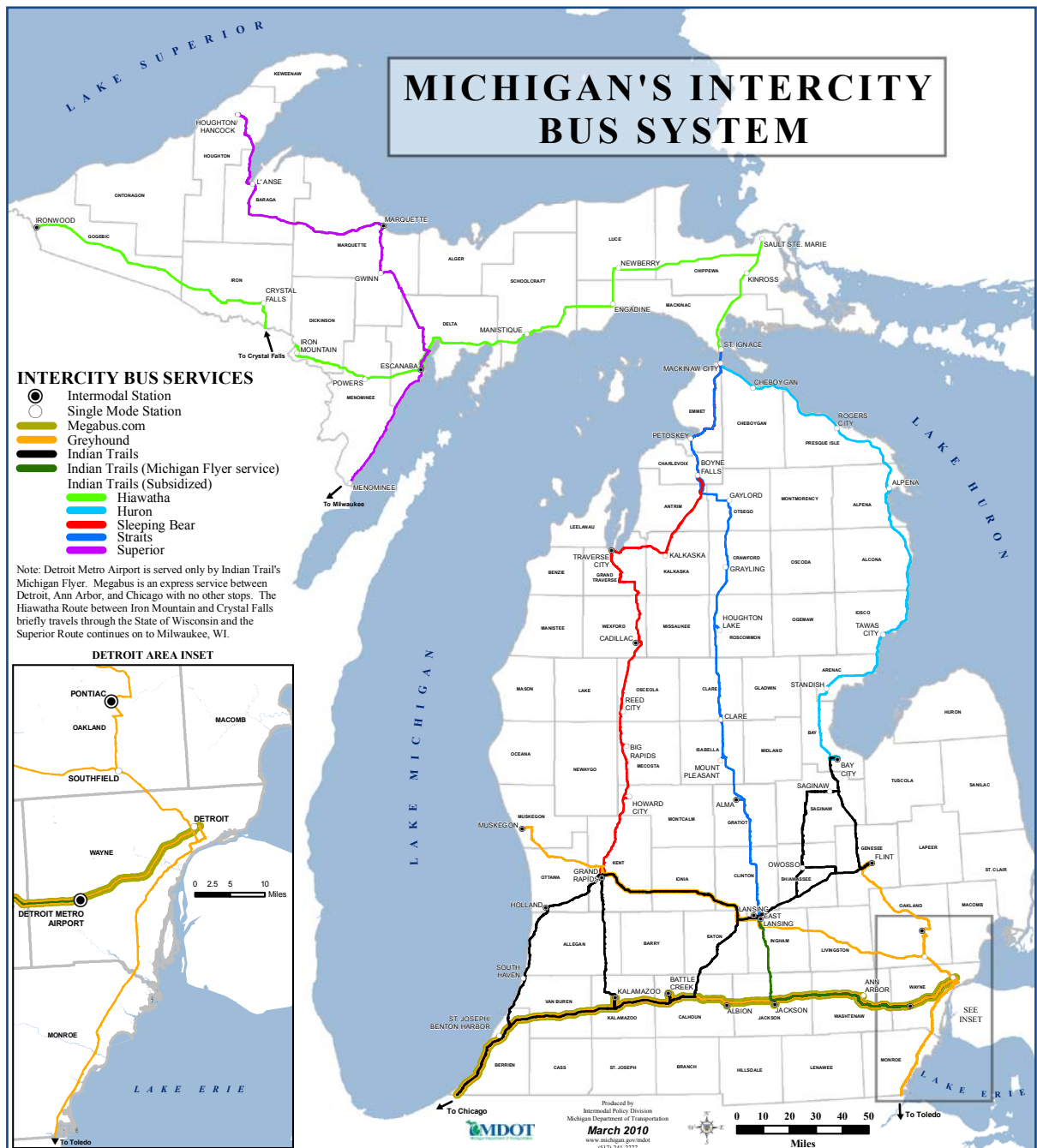
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Intercity Passenger Bus Service Access

Goal: *Every person in Michigan is within 100 miles of the intercity bus service.*

Intercity bus service is provided by the private sector. MDOT purchases service to compensate for areas of the state where it is no longer profitable for the private service to operate. All service in the northern Lower Peninsula and the Upper Peninsula is dependent on state contracts. The service purchased by

MDOT, in combination with the unsubsidized service, provides a statewide intercity bus network that is within 100 miles of every Michigan resident, meeting the system goal. It also enables Michigan travelers to connect to the national intercity bus and train system.



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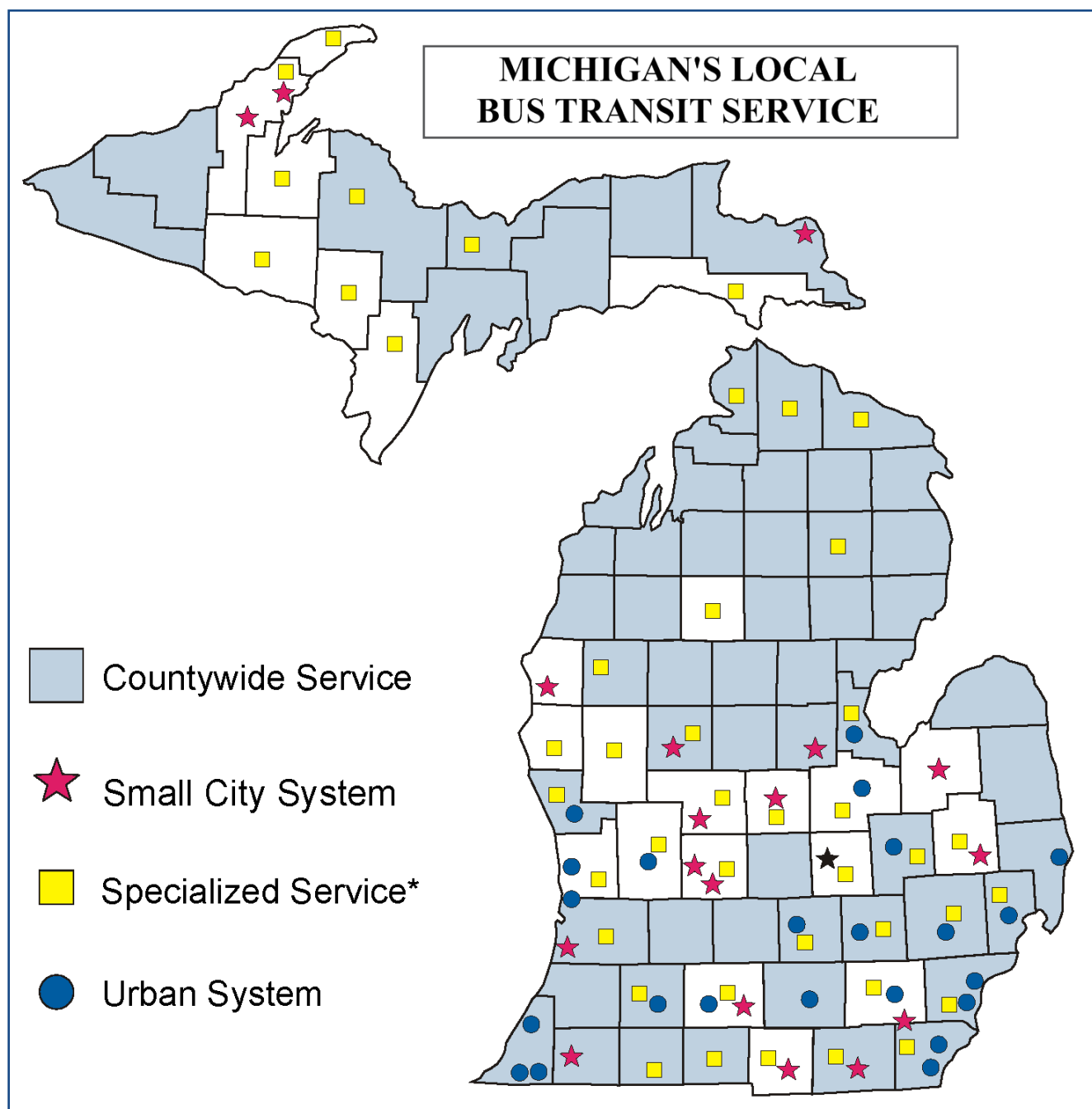
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Local Bus Transit Service

Goal: *Every Michigan county provides some form of local bus service.*

Local bus transit service plays a vital role in a community. It relieves congestion on the roadways, conserves energy, and is typically lower-cost transportation. The availability of local transit is dependent on local funding support, generally a property tax millage. Once local funds are in place, state and federal funds are available and, in combination with fare box

revenue and local millages, are used to operate local services. Currently, local bus transit service is available in all 83 Michigan counties, meeting the goal; although in some counties, service is very limited. Under the current revenue picture, MDOT's goal is to protect the existing local transit system, although there are clearly gaps in the network.



* The Specialized Service Program provides financial assistance for operating transportation services primarily for elderly persons and individuals with disabilities.

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PROTECTING LIVES

Safety and Security: *Continue to improve transportation safety and ensure the security of the transportation system.*

The safety and security goals continue MDOT's long-standing commitment to build, maintain, and operate the safest transportation system possible. The objectives under the safety and security goal emphasize traditional safety initiatives aimed at reducing fatalities, injuries, and crashes, as well as efforts to address new transportation system security needs in response to increased threats from terrorism.

Safety

Safe Environment through Engineering and Education

Goal: *100 percent of safety-funded projects on the state trunkline system address one or more focus areas of the Strategic Highway Safety Plan (SHSP).*

As part of MDOT's process to invest safety funds, locations are identified where safety improvements can be made in support of key focus areas in Michigan's SHSP. To meet the goal of reduced fatalities and serious injuries, the SHSP identifies 12 strategic focus areas. Of these 12 areas, three are predominately addressed by the state trunkline Safety Program: intersection safety, pedestrian and bicycle safety, and lane departure. Although not directly impacted by the Safety Program, several of the remaining focus areas do receive an indirect benefit.

All safety projects selected by MDOT for FY 2009 - FY 2011 addressed one or more of the key focus areas from the SHSP.

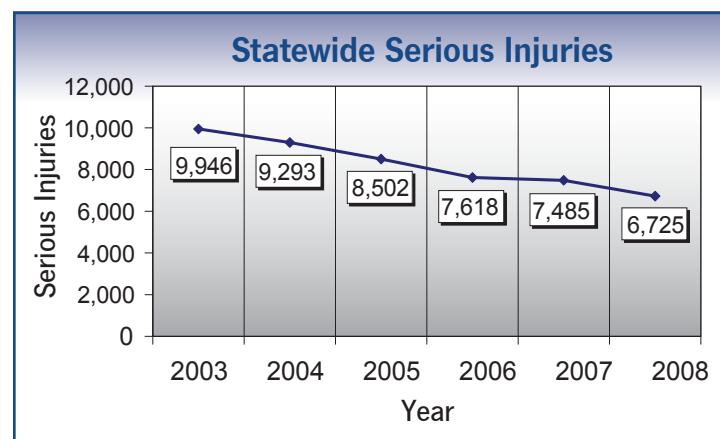
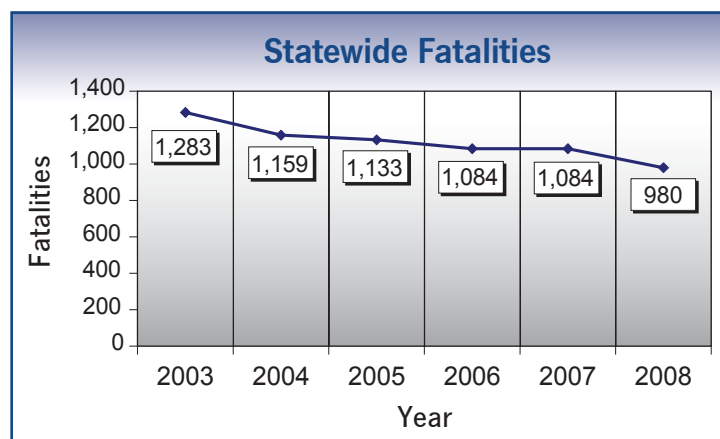
Crash Reduction

Goal: *Reduce fatalities by 4.7 percent and serious injuries by 4.6 percent each year.*

The goal of Michigan's 2008 SHSP was to reduce statewide traffic fatalities and serious injuries from 1,084 and 7,485, respectively in 2007, to no more than 850 and 5,900, respectively by 2012. This equates to a reduction of 4.7 percent and 4.6 percent respectively each year.

As the graphs demonstrate, the state continues to meet or exceed the annual target of a 4.6 percent reduction in crash severity since implementation of the SHSP. From 2003 to 2008, fatalities declined by nearly 24 percent and serious injuries by more than 32 percent.

- Fatalities have been reduced to 980 in 2008, a 9.6 percent decline since 2007.
- Serious injuries have been reduced to 6,725 in 2008, a 10.2 percent decline since 2007.



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Statewide Crash Costs

Goal: Reduce the societal and economic loss from injuries and fatalities by reducing the number and severity of crash incidents.

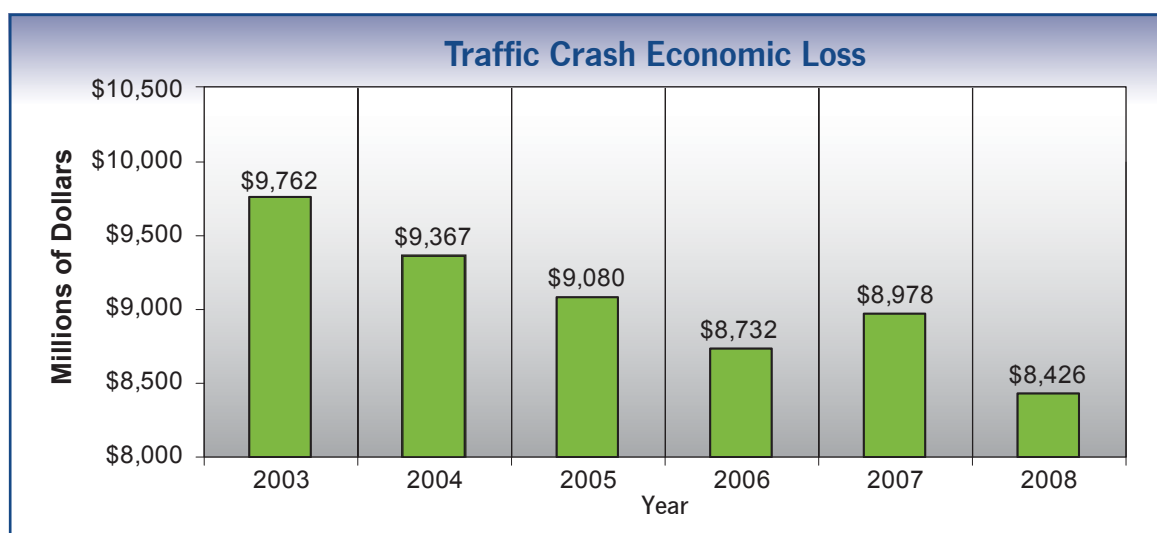
The cost estimate for Michigan crashes from 2003 to 2008 is based on the National Safety Council's cost-estimating procedures. Average costs are determined for deaths, incapacitating or non-incapacitating injuries, possible injuries, and no injuries at all.

As evident in the table below, a reduction in crash occurrences results in real economic benefits for the residents of Michigan. Although it is difficult to quantify the social and economic loss resulting from serious injury or death, the roughly 14 percent decline evident between 2003 and 2008 is indeed good news.

Cost Savings from Safety Investments

Goal: Maintain time-of-return of safety-funded projects at five years or less.

This measure is intended to ensure that safety projects provide the maximum return on investment. Examples of MDOT-funded safety projects include: non-freeway rumble strips, left-turn lanes, intersection improvements, and cable median barriers. The statewide average time-of-return has met the goal of five years or less for each of the last five fiscal years. The time-of-return is MDOT's cost benefit analysis to determine the eligibility of a safety-funded project. The use of cost-benefit analysis for selection of safety-related projects is required by the Highway Safety Improvement Program.



Note: These costs estimates are not intended for comparisons to previous years. The National Safety Council cost estimating procedure is based on variables that change annually.



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PLEASE NOTE!

For security reasons, some risk/vulnerability information cannot be shared. Contact the Michigan State Police Emergency Management and Homeland Security Division for further details.

Risk Reduction

Following the tragic events of 9/11, across the country, state DOTs became acutely aware of the role they play regarding national security. As a result, risk assessments of key MDOT-owned bridges were conducted at our international borders in 2002. Following that work, a list of the most important needs was identified and provided to the Michigan State Police, the Department of Military and Veterans Affairs, and Gov. Granholm's office. A second round of assessments took place in 2004. The border security risk assessments defined a strong path for MDOT to follow, and the federal team validated and verified the results of these efforts.

As a result of these risk assessments, action plans have been developed and are in place at key MDOT-owned bridges that are in alignment with U.S. Department of Homeland Security terrorist threat levels. These bridges are critical to Michigan's economy and national security.

MDOT continues to be involved in the process of establishing programs, strategies, and activities that will improve transportation infrastructure protection and resiliency at the international border.



Interoperability

Goal: *Enhance and increase protective measures and implement effective border continuity by increasing the amount of interoperable communication equipment used by transportation agencies.*

It is MDOT's goal to enhance the protection of transportation facilities and mitigate vulnerabilities for all modes of transportation. One way to accomplish this task is to increase the number of agencies that utilize interoperable communication equipment.

MDOT uses and complies with Michigan Interoperable Communications Plan standards. To date, over 20 percent of county-level road agencies have set up interoperable talk group channels with MDOT.

Protective Efforts

Goal: *Enhance and increase protective measures and implement effective border continuity by addressing significant critical infrastructure issues and improving transportation infrastructure protection and resiliency at the international border, including hazardous materials freight movement.*

MDOT addresses emergency and security preparedness by being ready to handle "all hazards," which are defined as any incident, disaster, or attack that is either man-made (technological, terrorism) or an act of nature (flooding, fog, snow or ice storms).

MDOT's transportation security programs, strategies, and activities go beyond the "guards and gates" that one might typically attribute to safety and security. MDOT's strategy includes identifying potential targets, working with partners to correct weaknesses, strengthening and protecting potential targets and points of entry into the state, and efficiently responding to and recovering from all hazards. For security reasons, MDOT cannot report on specific condition improvements that result from investments in protective efforts nor provide examples of those efforts. As an indicator, however, MDOT can report that it expends 100 percent of all the available grant dollars it receives for protective efforts.

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SERVING OUR CUSTOMERS

15

SERVING OUR CUSTOMERS

DRIVEN BY EXCELLENCE: A Report on Transportation Performance Measurement at MDOT

System Improvement: *Modernize and enhance the transportation system to improve mobility and accessibility.*

Modernization

Traffic Conditions

Goal: *Modernize facilities to accommodate the efficient movement of people, goods, and services.*

MI Transportation Plan's Corridors of Highest Significance, as shown in the figure below are defined as: An integrated, multi-modal system of transportation infrastructure along geographic corridors that provide a high level of support for the international, national,

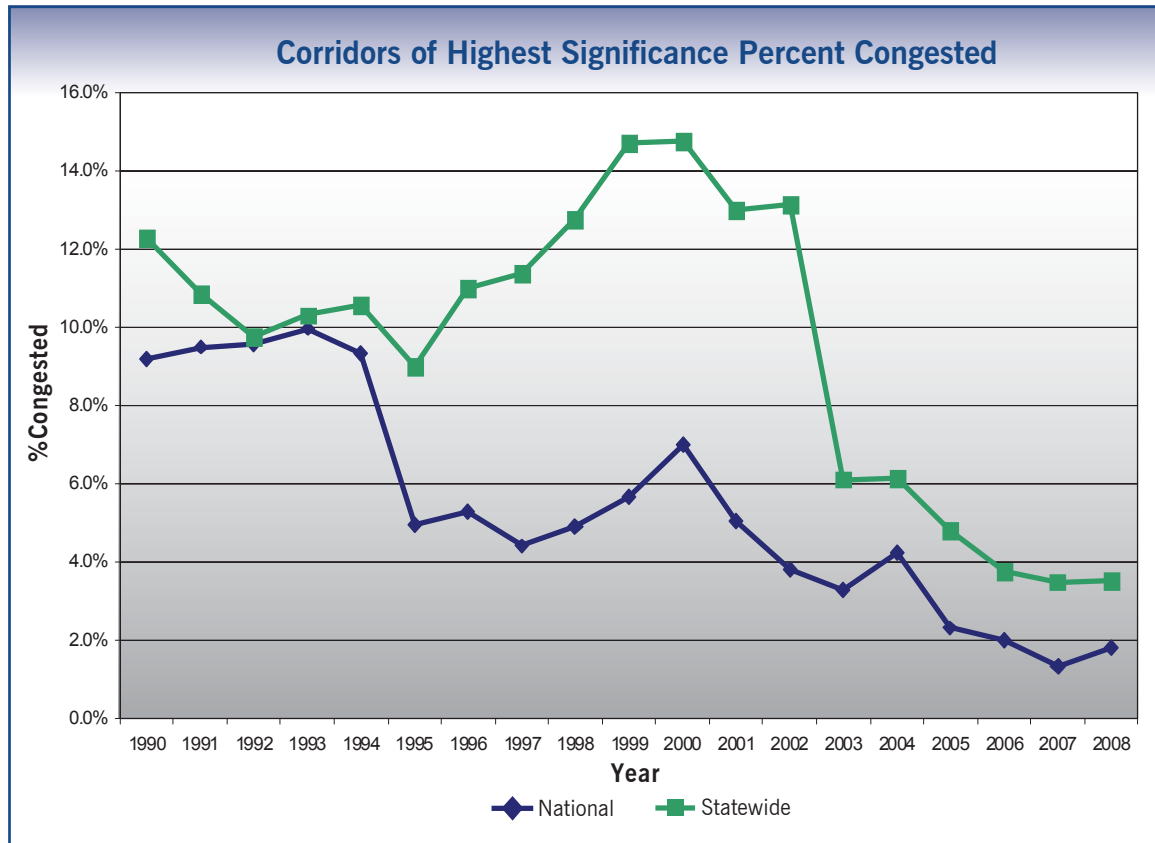
and state economies. These corridors connect activity centers within and outside Michigan and serve the movement of people, services, and goods vital to the economic prosperity of the state.

Michigan Corridors of Highest Significance Map



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Level of Service is a qualitative measure that describes traffic conditions in terms of speed, travel time, freedom to maneuver, comfort, convenience, traffic interruptions, and safety. This measure is used to monitor congestion trends for primary roadways that traverse the length of corridors of international,

national, or statewide significance. As seen in the graph above, the current level of congestion on our nationally significant highways was down to roughly 2 percent in 2008, meaning the level of service for those highways approaches 98 percent.



IMPORTANT: "USE RESTRICTED: 23 USC 409 and/or 402(k)(1)"

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Expanding Access

Expand Access to Airports

Goal: *Modernize facilities to accommodate the efficient movement of people, goods, and services.*

The 2008 MASP evaluates access to aviation services based on proximity of airports to the general population, population centers, business centers, tourism and convention areas; proximity of airports suitable for emergency landings; and available services to seasonally isolated areas.

This performance measure is the average of six performance measures of access to airports. The performance target for each of these measures is 95 percent for Tier 1 airport access.

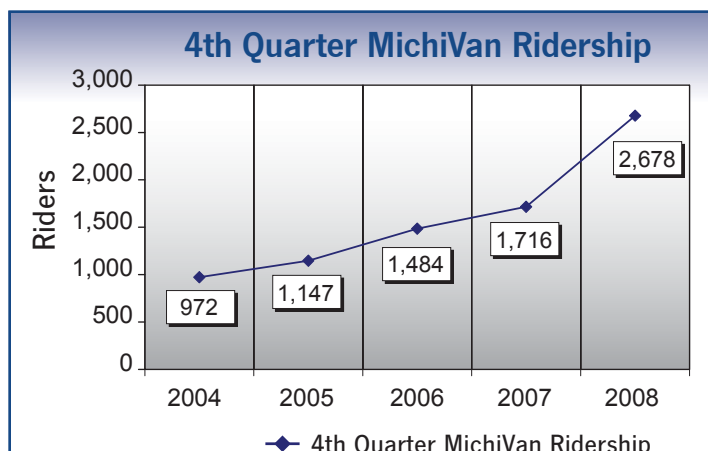
- Percent of isolated locations with paved runway or heliport facilities.
- Land-area coverage (pilot access to an airport with a paved runway within 30 miles for emergency landings).
- Percent of tourism/convention areas located within 30 minutes travel time to a Tier 1 airport
- Percent of business centers located within 30 minutes travel time to a Tier 1 airport.
- Percent of population centers located within 30 minutes travel time to a Tier 1 airport.
- Percent of population living within 45 minutes travel time to a Tier 1 airport.

Expand Access to RideShare (MichiVan)

Goal: *Modernize facilities to accommodate the efficient movement of people, goods, and services.*

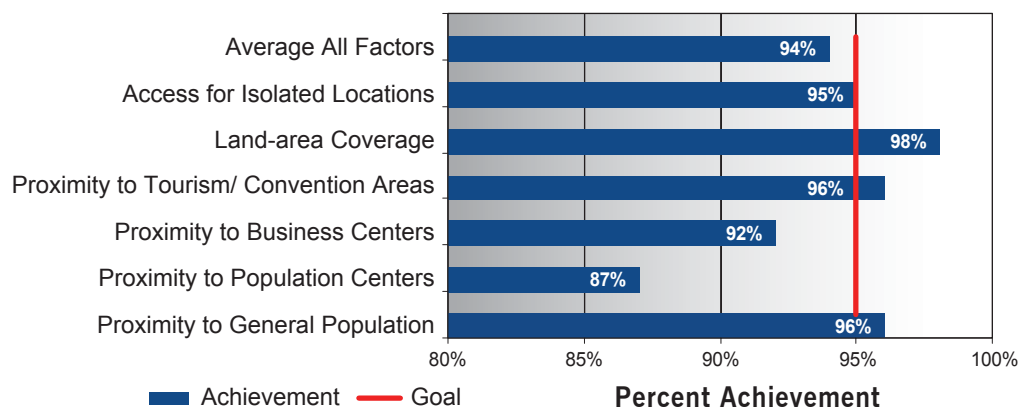
The MichiVan Program provides an extensive fleet management system and promotional sponsorship to work with rideshare offices, state agencies, employers, and the public to recruit people to use vanpools as an alternate transportation mode to the single-occupant vehicle work commute.

The program supplies fully insured passenger vans to commuter groups. The vans accommodate five to 15 commuters who share a ride along an established route. Each rider pays a monthly fee except for the volunteer driver. This program is open to all members of the public. The number of vans in use reflects the rapid growth in ridership. MichiVan ridership grew by 175 percent between 2004 and 2008, from 972 riders to over 2,600 riders.



Access to Aviation Facilities

Tier 1 Target = 95%



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RELIABLE TRAVEL

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RELIABLE TRAVEL

DRIVEN BY EXCELLENCE: A Report on Transportation Performance Measurement at MDOT

Efficient and Effective Operation: *Improve the efficiency and effectiveness of the transportation system and transportation services, and expand MDOT's coordination and collaboration with partners.*

Reducing Delays

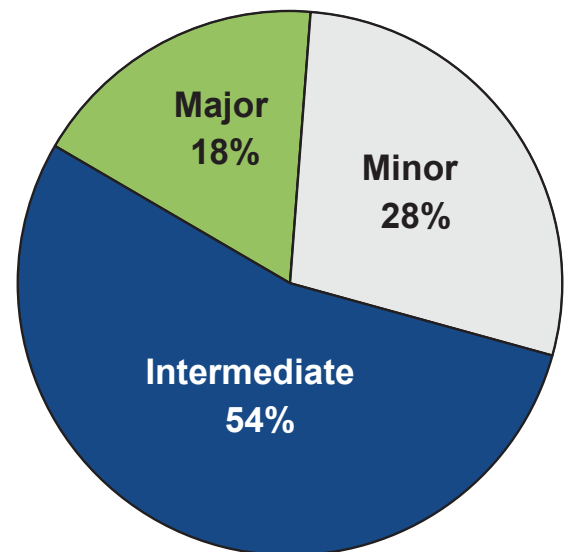
Goal: *Minimize disruption to mobility resulting from traffic incidents.*

The goal of this performance measure is to minimize disruption to mobility resulting from incidents on the highway network. One way this can be measured is by the percentage and duration of freeway closures. A traffic incident is an unplanned event that affects or impedes the normal flow of traffic and requires a response to protect life or property, and to mitigate its impacts. Traffic incidents include motor vehicle crashes, disabled vehicles, and other occurrences that require an emergency response. Minimizing disruptions reduces the opportunity for secondary crashes, making the roadway safer for everyone.

MDOT set a goal to reduce major delays, resulting from freeway closures lasting longer than 120 minutes, to less than 25 percent of all incidents. A major incident is any freeway closure lasting more than two hours. The current percentage of freeway closures for major incidents is 18 percent. The majority of incidents currently fall into the intermediate category, affecting traffic between 30 and 120 minutes. Minor incidents affect traffic for less than 30 minutes.

Data is collected from numerous sources, including incident management logs from MDOT Transportation Service Centers and regions, statewide law enforcement traffic crash reports, direct observations, media reporting, the Michigan Intelligent Transportation

**Incidents by Category
for Reporting Month: December 2009**



System (MITS) Center, and the West Michigan Traffic Management Center. Monthly performance reports and other detailed information about MDOT's traffic management centers in both west Michigan and the Metro Detroit areas are currently available at: www.michigan.gov/its.



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Freeway Courtesy Patrol

A specific tool that MDOT uses to minimize disruption to mobility resulting from incidents on the highway network is the Freeway Courtesy Patrol (FCP). Established in 1994, the FCP assists stranded and distressed drivers in southeast Michigan as an integral part of the goal to reduce delays. In addition, the FCP provides assistance to motorists by reducing potential crash situations, relieving traffic congestion, and helping to create safer driving environments. For active people whose daily routines and obligations put them on the road, the patrol is an added measure of travel safety.

The FCP fleet consists of 24 vans and employs 22 drivers. FCP drivers may find an assist during routine patrol or may be dispatched to an assist by a control room operator out of the MITS Center. When the drivers are dispatched, response and clear times are recorded to ensure that assists are executed in an efficient manner.

In FY 2008, the FCP recorded 50,782 vehicle stops on Metro Detroit freeways. Of the total vehicle stops, just over 69 percent (35,143), were to assist a stranded motorist. The chart below breaks down the clearance time and percentage of assists for each type of incident. In addition, 27.5 percent (13,955)

of stops were made to attend to unoccupied vehicles, and just over 3 percent (1,684) of the stops involved removing debris from travel lanes. In FY 2009, the FCP performed 49,098 stops, including 14,034 abandoned vehicles and 35,064 assists.

According to a 2009 report issued by the Southeast Michigan Council of Governments (SEMCOG), in 2008, the FCP saved an estimated 11.5 million hours of delay on freeways in the coverage area resulting in a benefit of \$15.20 for each dollar spent.

Services are funded by MDOT through a grant from the Federal Highway Administration. MDOT manages the program through the MITS Center. Additional sponsors include the Michigan State Police and SEMCOG, who also provide insight to improve operations. The FCP is operated by a private company, Emergency Road Response, for MDOT.

For more statistical information regarding the FCP, please refer to the 2009 MITS Center Annual Reports: www.michigan.gov/documents/mdot/MDOT_ITS_Annual_Report_2009_306771_7.pdf or the 2008 SEMCOG Evaluation Report at: http://library.semco.org/InmagicGenie/DocumentFolder/Freeway-CourtesyPatrol_FY2008.pdf.

Incident Clearance Time - FY 2008

	Flat Tire	No Gas	Mechanical	Crash	Multi-trouble	Other	Average of all Incidents
Average Clear Time (in minutes)	14.6	7.9	14.5	21.6	7.2	5.4	12.5
Frequency of Assistance	26%	21%	29%	8%	11%	5%	—

SUMMARY OF CURRENT SYSTEM GOALS

As mentioned at the beginning of this report, only a subset of MDOT performance measures is highlighted in this report. The information below summarizes the major system goals MDOT is currently tracking.

More information on each of these items is available on the Web at: www.michigan.gov/mdotperformance.

Stewardship

- 95 percent of all freeway bridges in good or fair condition.
- 85 percent of all non-freeway bridges on the trunkline system in good or fair condition.
- 90 percent of trunkline pavement in fair or better condition.
- Increase the percentage of trunkline railroad crossings in fair or better condition.
- 100 percent of all Tier 1 airport primary runway pavements in good condition.
- Reduce the portion of rural transit and specialized transit fleet that are operating past their useful life.
- Preserve existing intercity passenger rail transportation services.
- Preserve existing intercity passenger bus transportation services.
- Preserve existing local bus transit services in all 83 Michigan counties.
- 90 percent of all trunkline carpool parking lot pavements in good or fair condition.

Safety and Security

- Crash severity on all roadways statewide reduced.
- Maximize return for funding dollars.
- Correlation between safety-funded trunkline projects and the state Strategic Highway Safety Plan.
- Enhance and increase protective measures and implement effective border continuity.

System Improvements

- Percent of freeway route miles having acceptable level of service.
- Percent of arterial route miles having acceptable level of service.
- 100 percent of airports meet each target.
- Expand MichiVan access.
- Two or more modes serve each passenger terminal.

Efficient and Effective Operations

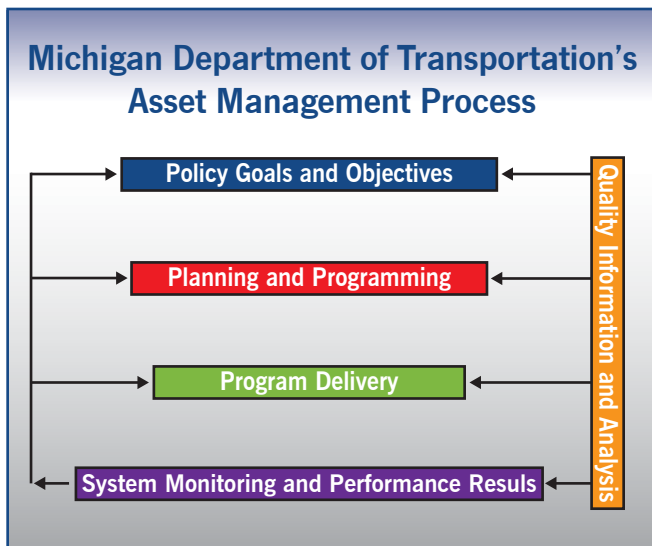
- Frequency and duration of disruptions due to incidents reduced.

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MDOT is responsible for overseeing and maintaining significant infrastructure. MDOT customers are Michigan residents, businesses, and visitors who expect transportation professionals to manage assets in an effective, efficient, and reliable manner. MDOT accomplishes this through a process known as asset management. The asset management process is predicated on the principles of: stewardship of public resources, accountability to customers, and continuous improvement. It is based on managing for results by focusing on performance.

Asset Management Consists of Five Major Elements



Instead of being just one more thing on the “to-do” list, asset management has become part of MDOT’s organizational culture to consistently identify and support good business practices and improve operations. Asset management was initially seen as a way to stretch dollars invested to improve infrastructure, but it also has helped MDOT streamline operations and reduce administrative costs.

The Transportation Asset Management Council oversees a comprehensive, unified data collection process at the state, county, and city levels to assess the condition of Michigan roads and bridges, and reports annually to the Legislature on the results. Their efforts allow all these transportation agencies to make highly informed decisions regarding investment in their road networks.

Effective Asset Management Relies on Well-defined Performance Measures

Asset management efforts are best achieved when they are linked to strategic goals and desired outcomes. The goals need to be clear, well-defined, and easily measured. MDOT achieved its pavement condition goals on schedule, and has now developed additional goals that expand performance measurement to other programs and other modes.

Data-driven decision-making and asset management can help agencies meet the ever-growing demand for transportation service in a fiscally constrained environment. Clearly defining the level of service or condition for different types of assets makes it possible to reassess those levels of service or conditions when resources diminish.

Thanks to MDOT’s multi-jurisdictional approach to asset management, MDOT and its local partners are able to realize efficiencies from a logical, data-driven approach to investment. As a result, road agencies in Michigan are able to provide quality measures of the system’s current condition. With the asset management approach, agencies can accurately ascertain the level of investment needed to maintain and improve the system and forecast the consequences of under investment.

CONCLUSION

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CONCLUSION

What does it mean for our future?

The ability to have more precise information on system function is key to better management of current and anticipated future needs. Performance measures benchmark the current functioning of the transportation system in its various components and, over time, reveal meaningful trends. Transportation decision-makers can then adjust strategies, project selection, or level of investment to better achieve the goals and objectives of the MI Transportation Plan.

Michigan's future depends on the development, preservation, maintenance, and efficient operation of our transportation system. Our economic vitality and quality of life are closely linked to safe, efficient, and reliable transportation. Michigan's transportation system - including roads, transit, nonmotorized facilities, aviation, marine, passenger or freight rail, and inter-modal facilities - plays an integral role in supporting the national, state, and regional economy and quality of life for its residents. Investment in transportation is vital to future economic growth for Michigan and the nation.





**Providing the highest quality
integrated transportation services for economic
benefit and improved quality of life.**